

ENERGY STAR® Version 7.0 Residential Dishwasher Draft Final Specification Stakeholder Comment Matrix

Topic	Comment	EPA Response
Sunset	<p>Four stakeholders support the new specification noting that ENERGY STAR is a top driver of consumer purchasing decisions for dishwashers. ENERGY STAR offers value to consumers by providing a way to identify highly energy efficient products and offering other useful energy saving tips on its website. Two stakeholders noted the high ENERGY STAR market saturation and encouraged EPA to move forward with the Version 7.0 proposal.</p> <p>Four stakeholders strongly supported sunsetting the ENERGY STAR dishwasher specification. Stakeholders expressed concerns including diminished returns from more efficient dishwashers, possible negative performance consequences of increasing energy and water levels, possible cleaning performance issues, cost effectiveness, and technology limitations.</p>	<p>EPA thanks stakeholders for these comments. Analysis completed by EPA for Version 7.0 revision indicates a potential for meaningful national energy savings and greenhouse gas reductions, on par with those delivered by previous revisions in the appliance and other categories. Incorporating the minimum cleaning metric will better ensure these savings are not undermined by poor performance.</p>
Payback Analysis	<p>Three stakeholders noted the Department of Energy's (DOE) analysis found that the proposed Version 7.0 criteria will save consumers three dollars per year in energy costs and add eighty-two dollars in added product cost. One stakeholder stated data from DOE indicates consumers purchasing a Version 7.0 dishwasher will not receive a reasonable payback period on their investment.</p> <p>Two stakeholders raised concerns about equity associated with the increased cost of dishwashers as federal standards and ENERGY STAR criteria become more stringent, resulting in low-income consumers facing the inability to purchase dishwashers and bearing burden of higher energy and water costs resulting from handwashing dishes.</p>	<p>EPA thanks stakeholders for their comments. EPA and DOE's approaches to performing payback analyses differ consistent with the different purposes of each program. In setting a minimum floor that will ultimately restrict product sales, DOE performs product teardowns, interviews, and develops cost projections of potential models across efficiency levels to be released several years in the future when new DOE standards are in effect. DOE considers the costs of complete redesign and development of new models to meet future standards. For purposes of ENERGY STAR, EPA is interested in the potential for product models at different price points, currently on the market, to pay back that difference through energy savings. Because ENERGY STAR levels are designed to recognize top performers currently on the market, the costs associated with redesign are not relevant.</p> <p>Additionally, EPA recognizes that the information in DOE's Preliminary TSD for dishwashers is more recent than the</p>

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		<p>information used to support EPA’s analysis for ENERGY STAR Dishwashers Version 7.0 Draft 2. However, DOE is currently processing comments, feedback, and information that was solicited as part of federal rulemaking that may be used to enhance, adjust, and adapt its analysis for a revised TSD. As such, it would be premature for EPA to base its analysis on preliminary findings that are likely to change. Further, EPA updated its analysis in the ENERGY STAR Dishwashers Version 7.0 Final Draft Data & Analysis Package and found a payback range of 0 to 1.9 years.</p> <p>Similarly, DOE’s proposal to reduce the average annual cycles per year to 184 for the Appendix C2 test procedure may change given that 2020 RECs data, which was recently released, indicates average annual cycles per year have increased. Furthermore, the 215 cycles per year value used for purposes of the ENERGY STAR analysis is consistent with Appendix C1, which will continue to be required for use during the next several years until new federal standards are effective and/or required.</p> <p>With respect to equity concerns, EPA notes performance concerns with products that use lower cost componentry to lower the price point (e.g., plastic tubs). Efforts to address inequity are undermined if the options for low-income households fail to perform such that energy use is increased. EPA sees value in rewarding partners who are producing efficient and well-performing products, with the potential that costs will come down as more partners move to better performing componentry. Working with partners to close this cost gap (for example, through tailored incentives) remains an EPA priority.</p>

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Cleaning Performance	<p>Four stakeholders expressed support for a minimum cleaning performance requirement. They appreciated EPA’s evidence and analysis to support this requirement for Version 7.0. One stakeholder proposed EPA consider adding an extra heavy soil cycle to the test in a future specification version to demonstrate the effectiveness of the soil sensors. In parallel with consumer awareness efforts, adding an extra heavy soil load would match the best practice of scraping food off plates rather than testing only with the soil levels found after pre-rinsing dishes. Thus, the extra heavy soil load requirement will provide consumers further confidence not to pre-rinse because dishwasher designs would adapt to clean effectively without pre-rinsing. This would result in significant water and energy savings under real-world consumer usage. Three stakeholders support ENERGY STAR’s proposed cleaning index threshold of 65 to align with the threshold proposed in DOE’s test procedure NOPR.</p> <p>Four stakeholders did not support EPA including a cleaning performance threshold in the specification because of concerns over reproducibility and repeatability of the cleaning performance test. They cited issues they found when conducting the test and claimed other stakeholders experienced variation between tests at different labs which were significant. They also questioned if the proposed threshold of 65 for wash performance is meaningful to consumers. These stakeholders also stated EPA’s cleaning performance proposal does not address many other important aspects of consumer satisfaction with a dishwasher, including cycle time, noise, and dry performance. Two stakeholders expressed concern testing variation impacting verification testing.</p>	<p>EPA thanks stakeholders for these comments. EPA may consider an extra heavy soil cycle in the future, but at this time does not have test data to develop the criteria for an extra heavy soil load and evaluate the impact. EPA encourages stakeholders to share any available test data for the Agency’s future review.</p> <p>It is EPA’s intent to align with DOE wherever possible and applicable, and a cleaning index threshold of 65 is in alignment with DOE’s proposed cleaning index threshold per their test procedure NOPR. Additionally, EPA believes that aligning on a threshold of 65 would help manufacturers during the transition into meeting DOE’s proposed test procedure update for Appendix C1. EPA notes that once DOE’s proposed Appendix C1 with a cleaning performance threshold is in effect, partners will certify to ENERGY STAR only using Appendix C1. Until the proposed Appendix C1 is in effect, ENERGY STAR will continue to use the ENERGY STAR Final Test Method for Determining Residential Dishwasher Cleaning Performance.</p> <p>All questions and comments regarding test procedure repeatability and reproducibility should be directed to DOE.</p>

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Collaboration Opportunities	<p>There was general support for the idea of EPA working with dishwasher manufacturers, detergent manufacturers, and other organizations on the development of consumer education on the savings from using a dishwasher over hand washing, how pre-rinsing is wasteful, how to effectively load the dishwasher, and other ways to help conserve water and energy.</p>	<p>EPA recognizes the value of raising awareness on the environmental benefits of using dishwashers over handwashing, educating consumers on “scrape, not rinse,” and informing consumers on the best ways to load a dishwasher. EPA looks forward to collaborating with partners and stakeholders to develop messaging and educational resources towards these efforts and can work to amplify messaging and information to help further this effort.</p>
Connected	<p>One stakeholder supported EPA removing the 5% credit for connected functionality due to the credit compromising measurable energy benefits.</p> <p>One stakeholder opposed EPA removing the 5% credit for connected functionality and disagree there is diminishing interest in demand response programs for household appliances.</p>	<p>EPA thanks stakeholders for their feedback on connected functionality. EPA continues to support the connected criteria in Section 4 of the Version 7.0 ENERGY STAR specification, and manufacturers may continue to self-report their products as Connected if the models meet the criteria. ENERGY STAR was a leader in developing connected criteria for products (beginning in 2011) and has recognized connected products across 17 categories to date. As is often the EPA value-add, the program developed the criteria and definitions, and in some cases, with DOE’s lead, a test method to measure Demand Response (DR) capability, all to foster national harmonization. Entities like the California Energy Commission have now adopted these for use. This big step forward for connected reduces the need for an ENERGY STAR market pull in the form of an efficiency credit. A 5% credit significantly reduces consumer energy savings. To deliver the efficiency expected of ENERGY STAR dishwashers by consumers, EPA is removing the 5% credit. Lastly, a test procedure to measure DR capability does not yet exist, thus, no models are currently relying on the 5% credit.</p>
Development Cycle	<p>One stakeholder thanked EPA for extending the effective date to one year after the specification is published.</p>	<p>EPA thanks the stakeholder for this comment. In recognition of simultaneous testing requirements associated with forthcoming changes to 10 CFR 430, Subpart B, Appendix C1 and ENERGY STAR, EPA has extended the transition period for Version 7.0 revision to 12 months.</p>

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	<p>One stakeholder expressed concerns the specification revision process may be rushed and there would not be enough time to consider all the comments and data.</p>	<p>Since initiating the Version 7.0 ENERGY STAR specification revision for residential dishwashers in March 2020, EPA has released three drafts and held numerous webinars and meetings to collect feedback from stakeholders, as well as coordinated with DOE to ensure the ENERGY STAR specification harmonizes with DOE's definitions and test methods used in minimum efficiency standards.</p>